

JUN 01 2006

## FACSIMILE COVER SHEET

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Date: June 1, 2006

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Signed: 

Name: Jung-hua Kuo

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Re: U.S. Pat. App. No. 10/788,641  
Entitled: Voice Tube Antenna for Wireless Headset  
Attorney Docket Number: 01-7118

Pages: 31 (including this facsimile cover page)

To: Patent and Trademark Office  
Art Unit: 2644  
Examiner: Faulk, Devona E

MESSAGE:

In response to the Notification of Non-Compliant Appeal Brief, attached is a corrected Appeal Brief (7 pages) and Appendix A (3 pages), in triplicate.

JUN 01 2006

PATENT  
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of: Burson et al.

Application No: 10/788,641

Filed: February 27, 2004

Title: Voice Tube Antenna for Wireless Headset

Atty. Dkt. No. PLANP033

Examiner: Faulk, Devona E

Assignee: Plantronics, Inc.

Art Unit: 2644

CERTIFICATE OF MAILING OR TRANSMISSION

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Signed: 

Jung-hua Kuo

BRIEF ON APPEAL

Mail Stop Appeal Brief-Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This is an Appeal from the final rejection of claims 1-18 in the above-referenced patent application. In accordance with 37 C.F.R. §1.192, this Brief, along with the Appendix, is filed in triplicate and is accompanied by the required fee.

I. Real Party In Interest

The real party in interest is Plantronics, Inc. The subject patent application was assigned from appellants to Plantronics, Inc. The Assignment was recorded at Reel/Frame 015033/0392.

II. Related Appeals and Interferences

There are currently no known appeals or interferences which may directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. Status of Claims

Claims 1-18 are rejected.

#### IV. Status of Amendments

No amendments to the claims were filed subsequent to the final rejection. Thus, the appeal is being taken on the basis of claims 1-18 as finally rejected, as presented in Appendix A submitted herewith.

#### V. Summary of Inventions

The inventions are generally directly to a wireless headset (independent claim 1 and claims dependent therefrom) and a voice tube (independent claim 11 and claims dependent therefrom). Both independent claims are illustrated in FIGS. 1-4 and generally described at paragraph [0018], lines 1-8 and paragraph [0026].

Independent claim 1 recites a wireless headset that generally includes a microphone (e.g., lines 5-8 of paragraph [0018], part of headset capsule 104, 204), a voice tube 106, 206 defining a lumen 114, 214 therein extending between an open end of the voice tube and the microphone for acoustic transmission therebetween (paragraph [0023], lines 1-5 and paragraph [0027], lines 1-2), an antenna 108, 208 at least partially integrated within the thickness of the voice tube (paragraph [0024], lines 1-5 and paragraph [0026], lines 1-7) and a transmitter (part of headset capsule 104, 204) in communication with the antenna for transmitting signals from the microphone via the antenna.

Independent claim 11 recites a voice tube that generally includes a tubular member 106, 206 having an open end and an opposing end and defining a lumen 114, 214 extending between the two ends for acoustic transmission (paragraph [0023], lines 1-5 and paragraph [0027], lines 1-2), and an antenna 108, 208 at least partially integrated within the thickness of the tubular member (paragraph [0024], lines 1-5 and paragraph [0026], lines 1-7). In each case, the thickness of the voice tube or tubular member is explicitly defined in the claims as between an interior and an exterior surface of the voice tube (e.g., see FIGS. 2 and 4).

#### VI. Issues

In the final rejection, the Examiner rejected claims 1-3, 5, 6, 10, 11, 13, 14, and 18 were rejected under 35 U.S.C. 102(e) as being anticipated by Nassimi (US App. No. 2004/0204155).

The Examiner also rejected claims 4, 7-9, 12, and 15-17 under 35 U.S.C. 103(a) as being unpatentable over Nassimi in view of Scott (USPN 4,917,504) and/or Pallai (US App. No. 2001/0036291). In particular, claims 4, 8, 12, and 16 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nassimi in view of Scott. Claims 7 and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nassimi in view of Pallai. Claims 9 and 17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nassimi in view of Scott and further in view of Pallai.

Accordingly, the issues on appeal are:

- (1) whether claims 1-3, 5, 6, 10, 11, 13, 14, and 18 are anticipated by Nassimi;
- (2) whether claims 4, 8, 12, and 16 are patentable over Nassimi in view of Scott;
- (3) whether claims 7 and 15 are patentable over Nassimi in view of Pallai; and
- (4) whether claims 9 and 17 are patentable over Nassimi in view of Scott and further in view of Pallai.

## VII. Argument

### A. Introduction

The inventions are generally directed to a wireless headset (independent claim 1 and claims dependent therefrom) and a voice tube (independent claim 11 and claims dependent therefrom). The wireless headset generally includes a microphone, a voice tube defining a lumen therein extending between an open end of the voice tube and the microphone for acoustic transmission therebetween, an antenna at least partially integrated within the thickness of the voice tube, and a transmitter in communication with the antenna for transmitting signals from the microphone via the antenna. The voice tube generally includes a tubular member having an open end and an opposing end and defining a lumen extending between the two ends for acoustic transmission, and an antenna at least partially integrated within the thickness of the tubular member. In each case, the thickness of the voice tube or tubular member is explicitly defined as between an interior and an exterior surface of the voice tube.

### B. Claims 1-3, 5, 6, 10, 11, 13, 14, and 18 Are Not Anticipated by Nassimi

Claims 1-3, 5, 6, 10, 11, 13, 14, and 18 were rejected under 35 U.S.C. 102(e) as being anticipated by Nassimi.

Independent claim 1 generally recites a wireless headset having a microphone, a voice tube, and an antenna at least partially *integrated within the thickness of the voice tube*, and a transmitter. The voice tube defines a lumen and the thickness is expressly defined in claim 1 as being between an interior and an exterior surface of the voice tube. Independent claim 11 similarly recites a voice tube having a tubular member defining a lumen, and an antenna at least partially *integrated within the thickness of the tubular member*. The thickness is similarly expressly defined in claim 11 as being between an interior and an exterior surface of the tubular member.

Nassimi fails to disclose that the antenna is integrated within the thickness of the tube as defined by the claims. Nonetheless, the Examiner argues that thickness is defined as the dimension *through* an object as opposed to its length or width. However, such an interpretation of “thickness” is inappropriate in light of the fact that “thickness” is expressly defined in each of the independent claims 1 and 11. As noted, thickness is expressly defined in both claims 1 and 11 as being between an interior and an exterior surface of the voice tube. Because the voice tube has a lumen (claim 1) or the tubular member (claim 11), “thickness” refers to the thickness of the wall of the voice tube and does not include the lumen itself. Such explicit definition of “thickness” is clear and unambiguous.

Yet, the Examiner disregards and ignores such clear, explicit and unambiguous definition of “thickness” and, instead, chooses to adopt his own definition that is different from that provided in the claims. In fact, despite that “thickness” is explicitly and unambiguously defined in each of the independent claims 1 and 11, the Examiner states that “The examiner has defined thickness as the dimension through an object as opposed to its length and width.” (See for Example, Advisory Action, page 2, lines 11-12 of paragraph 1). Such definition of a claim term by the Examiner that is contrary to an explicit recitation of the definition of the claim term is inappropriate and impermissible.

Appellant agrees that “thickness,” when used with reference to a tube having a lumen (or a tubular member), may mean either (1) “the dimension through an object as opposed to its length of width” as asserted by the Examiner or (2) the thickness of the wall of the tube, i.e., between the interior and exterior surfaces as recited in the claims. However, such ambiguity does not exist in the claims. Specifically, both claims 1 and 11 explicitly recite that “thickness” is “between an interior and an exterior surface” of the

voice tube or tubular member. Thus, “thickness” as used in the claims cannot be read to mean the dimension *through the entire tube*, i.e., the diameter of the voice tube or the tubular member, as the Examiner insists.

In the Advisory Action, the Examiner states:

The specification only recites in reference to thickness, that “the shrink tubing 114 may have a thickness of approximately 0.009” (page 8, lines 23-24). The definition of thickness given in the claim is not disclosed in the specification.” (Advisory Action, page 2, last 5 lines of paragraph 1).

However, the specification clearly provides the same definition of “thickness” as the claims. In particular, with reference to FIG. 2, the specification states:

For example, as shown, the voice tube antenna 108 may be embedded within the thickness of the tubular member 116 and extending generally straight along a portion of the length of the voice tube 106. Although shown as approximately centered between an exterior and an interior surface of the tubular member 116, the voice tube antenna 108 may be disposed closer to or on the exterior or the interior surface of the tubular member 116, for example. (Specification, page 8, lines 8-13).

Note that FIG. 2 also shows that the voice tube antenna 108 is embedded within the thickness of and approximately centered between the exterior and interior surfaces of the tubular member 116.

Given that “thickness” refers to the dimension between the interior and exterior surfaces of the voice tube or tubular member, Nassimi does not disclose or suggest the inventions as claimed. In particular, Nassimi discloses an antenna that is merely located on or within the microphone tube, i.e., NOT at least partially integrated within the thickness of the voice tube (or tubular member). For example, Nassimi states “the antenna... may be *located on or within* the microphone tube” (Abstract, Paragraph [0018]). See also paragraphs [0025] (“the microphone is *contained* within the microphone tube”), [0028] (“the at least one antenna *runs along* the microphone tube”), [0037] (“microphone tube 18 may also advantageously *contain* one or more antennae”), [0045] (“antennae may be *hidden within* microphone tube 18.... Antennae may also be *located on* microphone tube 18. *In any case, antennae may run along* a portion or all of the length of microphone tube 18.”).

As is evident, Naassimi discloses locating the an antenna *on the microphone tube 18 or inside of the microphone tube 18*, i.e., in the lumen defined by the microphone tube 18. Nowhere does Naassimi disclose or even suggest that the antennae be integrated

*within the thickness* of the wall of the voice tube (i.e., within the wall of the tube, not merely located in the lumen of the tube), as generally recited in each of independent claims 1 and 11.

Reversal of the rejection of independent claims 1 and 11 as well as claims 2, 3, 5, 6, 10, 13, 14, and 18 dependent variously therefrom is requested.

**C. Claims 4, 7-9, 12, and 15-17 Are Patentable Over Nassismi in View of Scott and/or Pallai**

Claims 4, 7-9, 12, and 15-17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nassismi in view of Scott and/or Pallai. In particular, claims 4, 8, 12, and 16 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nassismi in view of Scott. Claims 7 and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nassismi in view of Pallai. Claims 9 and 17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nassismi in view of Scott in further in view of Pallai.

However, the addition of the secondary references Scott and/or Pallai does not overcome the deficiencies of Nassismi as discussed above. Thus, claims 4, 7-9, 12, and 15-17, dependent various from independent claims 1 and 11, are also believed to be allowable for at least similar reasons as those discussed above with respect to independent claims 1 and 11.

Reversal of the rejection of dependent claims 4, 7-9, 12, and 15-17 is therefore requested.

**D. Conclusion**

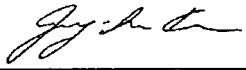
In view of the foregoing, reversal of the rejection of claims 1-18 is requested.

In the unlikely event that the transmittal letter accompanying this document is separated from this document and the Patent Office determines that an Extension of Time under 37 CFR 1.136 and/or any other relief is required, Applicant hereby petitions for any required relief including Extensions of Time and/or any other relief and authorizes the

Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 50-2315 (Order No. 01-7118).

Respectfully submitted,

Dated: June 1, 2006

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Attached: Appendix A (Copy of claims 1-18 involved in the subject Appeal; 3 pages)



Appendix A  
Pending Claims 1-18

1. A wireless headset, comprising:  
a microphone;  
a voice tube defining a lumen therein extending between an open end of the voice tube and the microphone for acoustic transmission between the open end of the voice tube and the microphone, the voice tube having a thickness defined between an interior and an exterior surface thereof;  
an antenna at least partially integrated within the thickness of the voice tube; and  
a transmitter in communication with the antenna for transmitting signals from the microphone via the antenna.
2. The headset of claim 1, further comprising a headset body and a headset capsule coupled to the headset body, the headset capsule including a speaker for outputting signals received via the antenna, the headset body being configured to position the speaker near a headset user's ear.
3. The headset of claim 2, wherein the headset body is selected from an earloop, earhook, and a headband.
4. The headset of claim 1, wherein the voice tube is one of flexible and rigid.
5. The headset of claim 1, wherein the voice tube includes a tubular member formed of a metallic material, the antenna comprising the metallic tubular member, the metallic tubular member being coupled to the transmitter.
6. The headset of claim 5, wherein the tubular member is one of a gooseneck metallic tubing, a flexible spiral wound stainless steel flexible tubing, and a flexible spiral wound tubing with copper wiring wrapped in stainless steel wire.

7. The headset of claim 5, wherein the voice tube includes a shrink tubing over the metallic tubular member.

8. The headset of claim 1, wherein the voice tube includes a tubular member formed of a nonmetallic material and the antenna is a metallic material at least partially embedded within the thickness of the voice tube.

9. The headset of claim 8, wherein the antenna is a metallic wire at least partially embedded within the thickness of the voice tube, the metallic wire being one of spiral wound and extending generally straight along at least a portion of a length of the voice tube.

10. The headset of claim 1, wherein the antenna is one of longer than, equal to, and shorter than the length of the voice tube.

11. A voice tube, comprising:

a tubular member having an open end and an opposing end, the opposing end being configured to be coupled to a microphone, the tubular member having a thickness defined between an interior and an exterior surface thereof;

a lumen defined by the tubular member extending between the open end and the opposing end for acoustic transmission between the open end and the microphone; and

an antenna at least partially integrated within the thickness of the tubular member, the antenna being configured to be coupled to at least one of a transmitter and a receiver for wirelessly transmitting and receiving signals via the antenna, respectively.

12. The voice tube of claim 11, wherein the tubular member is one of flexible and rigid.

13. The voice tube of claim 11, wherein the tubular member is formed of a metallic material, the antenna comprising the metallic tubular member.

14. The voice tube of claim 13, wherein the tubular member is one of a gooseneck metallic tubing, a flexible spiral wound stainless steel flexible tubing, and a flexible spiral wound tubing with copper wiring wrapped in stainless steel wire.

15. The voice tube of claim 11, further comprising a shrink tubing over the tubular member.

16. The voice tube of claim 11, wherein the tubular member is formed of a nonmetallic member and the antenna is a metallic material embedded within the tubular member.

17. The voice tube of claim 16, wherein the antenna is a metallic wire at least partially embedded within the thickness of the tubular member, the metallic wire being one of spiral wound and extending generally straight along at least a portion of a length of the tubular member.

18. The voice tube of claim 11, wherein the antenna is one of longer than, equal to, and shorter than the length of the tubular member.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of: Burson et al.

Application No: 10/788,641

Filed: February 27, 2004

Title: Voice Tube Antenna for Wireless Headset

Atty. Dkt. No. PLANP033

Examiner: Faulk, Devona E

Assignee: Plantronics, Inc.

Art Unit: 2644

CERTIFICATE OF MAILING OR TRANSMISSION

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Signed: \_\_\_\_\_

Jung-hua Kuo

BRIEF ON APPEAL

Mail Stop Appeal Brief-Patents  
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Sir:

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**I. Real Party In Interest**

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**II. Related Appeals and Interferences**

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**III. Status of Claims**

Claims 1-18 are rejected.

#### IV. Status of Amendments

No amendments to the claims were filed subsequent to the final rejection. Thus, the appeal is being taken on the basis of claims 1-18 as finally rejected, as presented in Appendix A submitted herewith.

#### V. Summary of Inventions

The inventions are generally directed to a wireless headset (independent claim 1 and claims dependent therefrom) and a voice tube (independent claim 11 and claims dependent therefrom). Both independent claims are illustrated in FIGS. 1-4 and generally described at paragraph [0018], lines 1-8 and paragraph [0026].

Independent claim 1 recites a wireless headset that generally includes a microphone (e.g., lines 5-8 of paragraph [0018], part of headset capsule 104, 204), a voice tube 106, 206 defining a lumen 114, 214 therein extending between an open end of the voice tube and the microphone for acoustic transmission therebetween (paragraph [0023], lines 1-5 and paragraph [0027], lines 1-2), an antenna 108, 208 at least partially integrated within the thickness of the voice tube (paragraph [0024], lines 1-5 and paragraph [0026], lines 1-7) and a transmitter (part of headset capsule 104, 204) in communication with the antenna for transmitting signals from the microphone via the antenna.

Independent claim 11 recites a voice tube that generally includes a tubular member 106, 206 having an open end and an opposing end and defining a lumen 114, 214 extending between the two ends for acoustic transmission (paragraph [0023], lines 1-5 and paragraph [0027], lines 1-2), and an antenna 108, 208 at least partially integrated within the thickness of the tubular member (paragraph [0024], lines 1-5 and paragraph [0026], lines 1-7). In each case, the thickness of the voice tube or tubular member is explicitly defined in the claims as between an interior and an exterior surface of the voice tube (e.g., see FIGS. 2 and 4).

#### VI. Issues

In the final rejection, the Examiner rejected claims 1-3, 5, 6, 10, 11, 13, 14, and 18 were rejected under 35 U.S.C. 102(e) as being anticipated by Nassimi (US App. No. 2004/0204155).

The Examiner also rejected claims 4, 7-9, 12, and 15-17 under 35 U.S.C. 103(a) as being unpatentable over Nassimi in view of Scott (USPN 4,917,504) and/or Pallai (US App. No. 2001/0036291). In particular, claims 4, 8, 12, and 16 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nassimi in view of Scott. Claims 7 and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nassimi in view of Pallai. Claims 9 and 17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nassimi in view of Scott and further in view of Pallai.

Accordingly, the issues on appeal are:

- (1) whether claims 1-3, 5, 6, 10, 11, 13, 14, and 18 are anticipated by Nassimi;
- (2) whether claims 4, 8, 12, and 16 are patentable over Nassimi in view of Scott;
- (3) whether claims 7 and 15 are patentable over Nassimi in view of Pallai; and
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## VII. Argument

### A. Introduction

The inventions are generally directed to a wireless headset (independent claim 1 and claims dependent therefrom) and a voice tube (independent claim 11 and claims dependent therefrom). The wireless headset generally includes a microphone, a voice tube defining a lumen therein extending between an open end of the voice tube and the microphone for acoustic transmission therebetween, an antenna at least partially integrated within the thickness of the voice tube, and a transmitter in communication with the antenna for transmitting signals from the microphone via the antenna. The voice tube generally includes a tubular member having an open end and an opposing end and defining a lumen extending between the two ends for acoustic transmission, and an antenna at least partially integrated within the thickness of the tubular member. In each case, the thickness of the voice tube or tubular member is explicitly defined as between an interior and an exterior surface of the voice tube.

### B. Claims 1-3, 5, 6, 10, 11, 13, 14, and 18 Are Not Anticipated by Nassimi

Claims 1-3, 5, 6, 10, 11, 13, 14, and 18 were rejected under 35 U.S.C. 102(e) as being anticipated by Nassimi.

Independent claim 1 generally recites a wireless headset having a microphone, a voice tube, and an antenna at least partially *integrated within the thickness of the voice tube*, and a transmitter. The voice tube defines a lumen and the thickness is expressly defined in claim 1 as being between an interior and an exterior surface of the voice tube. Independent claim 11 similarly recites a voice tube having a tubular member defining a lumen, and an antenna at least partially *integrated within the thickness of the tubular member*. The thickness is similarly expressly defined in claim 11 as being between an interior and an exterior surface of the tubular member.

Nassimi fails to disclose that the antenna is integrated within the thickness of the tube as defined by the claims. Nonetheless, the Examiner argues that thickness is defined as the dimension *through* an object as opposed to its length or width. However, such an interpretation of “thickness” is inappropriate in light of the fact that “thickness” is expressly defined in each of the independent claims 1 and 11. As noted, thickness is expressly defined in both claims 1 and 11 as being between an interior and an exterior surface of the voice tube. Because the voice tube has a lumen (claim 1) or the tubular member (claim 11), “thickness” refers to the thickness of the wall of the voice tube and does not include the lumen itself. Such explicit definition of “thickness” is clear and unambiguous.

Yet, the Examiner disregards and ignores such clear, explicit and unambiguous definition of “thickness” and, instead, chooses to adopt his own definition that is different from that provided in the claims. In fact, despite that “thickness” is explicitly and unambiguously defined in each of the independent claims 1 and 11, the Examiner states that “The examiner has defined thickness as the dimension through an object as opposed to its length and width.” (See for Example, Advisory Action, page 2, lines 11-12 of paragraph 1). Such definition of a claim term by the Examiner that is contrary to an explicit recitation of the definition of the claim term is inappropriate and impermissible.

Appellant agrees that “thickness,” when used with reference to a tube having a lumen (or a tubular member), may mean either (1) “the dimension through an object as opposed to its length of width” as asserted by the Examiner or (2) the thickness of the wall of the tube, i.e., between the interior and exterior surfaces as recited in the claims. However, such ambiguity does not exist in the claims. Specifically, both claims 1 and 11 explicitly recite that “thickness” is “between an interior and an exterior surface” of the

voice tube or tubular member. Thus, “thickness” as used in the claims cannot be read to mean the dimension *through the entire tube*, i.e., the diameter of the voice tube or the tubular member, as the Examiner insists.

In the Advisory Action, the Examiner states:

The specification only recites in reference to thickness, that “the shrink tubing 114 may have a thickness of approximately 0.009” (page 8, lines 23-24). The definition of thickness given in the claim is not disclosed in the specification.” (Advisory Action, page 2, last 5 lines of paragraph 1).

However, the specification clearly provides the same definition of “thickness” as the claims. In particular, with reference to FIG. 2, the specification states:

For example, as shown, the voice tube antenna 108 may be embedded within the thickness of the tubular member 116 and extending generally straight along a portion of the length of the voice tube 106. Although shown as approximately centered between an exterior and an interior surface of the tubular member 116, the voice tube antenna 108 may be disposed closer to or on the exterior or the interior surface of the tubular member 116, for example. (Specification, page 8, lines 8-13).

Note that FIG. 2 also shows that the voice tube antenna 108 is embedded within the thickness of and approximately centered between the exterior and interior surfaces of the tubular member 116.

Given that “thickness” refers to the dimension between the interior and exterior surfaces of the voice tube or tubular member, Nassimi does not disclose or suggest the inventions as claimed. In particular, Nassimi discloses an antenna that is merely located on or within the microphone tube, i.e., NOT at least partially integrated within the thickness of the voice tube (or tubular member). For example, Nassimi states “the antenna... may be *located on or within* the microphone tube” (Abstract, Paragraph [0018]). See also paragraphs [0025] (“the microphone is *contained* within the microphone tube”), [0028] (“the at least one antenna *runs along* the microphone tube”), [0037] (“microphone tube 18 may also advantageously *contain* one or more antennae”), [0045] (“antennae may be *hidden within* microphone tube 18.... Antennae may also be *located on* microphone tube 18. *In any case, antennae may run along* a portion or all of the length of microphone tube 18.”).

As is evident, Naassimi discloses locating the an antenna *on the microphone tube 18 or inside of the microphone tube 18*, i.e., in the lumen defined by the microphone tube 18. Nowhere does Naassimi disclose or even suggest that the antennae be integrated



*within the thickness* of the wall of the voice tube (i.e., within the wall of the tube, not merely located in the lumen of the tube), as generally recited in each of independent claims 1 and 11.

Reversal of the rejection of independent claims 1 and 11 as well as claims 2, 3, 5, 6, 10, 13, 14, and 18 dependent variously therefrom is requested.

**C. Claims 4, 7-9, 12, and 15-17 Are Patentable Over Nassismi in View of Scott and/or Pallai**

Claims 4, 7-9, 12, and 15-17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nassismi in view of Scott and/or Pallai. In particular, claims 4, 8, 12, and 16 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nassismi in view of Scott. Claims 7 and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nassismi in view of Pallai. Claims 9 and 17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nassismi in view of Scott in further in view of Pallai.

However, the addition of the secondary references Scott and/or Pallai does not overcome the deficiencies of Nassismi as discussed above. Thus, claims 4, 7-9, 12, and 15-17, dependent various from independent claims 1 and 11, are also believed to be allowable for at least similar reasons as those discussed above with respect to independent claims 1 and 11.

Reversal of the rejection of dependent claims 4, 7-9, 12, and 15-17 is therefore requested.

**D. Conclusion**

In view of the foregoing, reversal of the rejection of claims 1-18 is requested.

In the unlikely event that the transmittal letter accompanying this document is separated from this document and the Patent Office determines that an Extension of Time under 37 CFR 1.136 and/or any other relief is required, Applicant hereby petitions for any required relief including Extensions of Time and/or any other relief and authorizes the

Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 50-2315 (Order No. 01-7118).

Respectfully submitted,

Dated: June 1, 2006

By: 

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Attached: Appendix A (Copy of claims 1-18 involved in the subject Appeal; 3 pages)

**Appendix A**  
**Pending Claims 1-18**

1. A wireless headset, comprising:  
a microphone;  
a voice tube defining a lumen therein extending between an open end of the voice tube and the microphone for acoustic transmission between the open end of the voice tube and the microphone, the voice tube having a thickness defined between an interior and an exterior surface thereof;  
an antenna at least partially integrated within the thickness of the voice tube; and  
a transmitter in communication with the antenna for transmitting signals from the microphone via the antenna.
2. The headset of claim 1, further comprising a headset body and a headset capsule coupled to the headset body, the headset capsule including a speaker for outputting signals received via the antenna, the headset body being configured to position the speaker near a headset user's ear.
3. The headset of claim 2, wherein the headset body is selected from an earloop, earhook, and a headband.
4. The headset of claim 1, wherein the voice tube is one of flexible and rigid.
5. The headset of claim 1, wherein the voice tube includes a tubular member formed of a metallic material, the antenna comprising the metallic tubular member, the metallic tubular member being coupled to the transmitter.
6. The headset of claim 5, wherein the tubular member is one of a gooseneck metallic tubing, a flexible spiral wound stainless steel flexible tubing, and a flexible spiral wound tubing with copper wiring wrapped in stainless steel wire.

7. The headset of claim 5, wherein the voice tube includes a shrink tubing over the metallic tubular member.

8. The headset of claim 1, wherein the voice tube includes a tubular member formed of a nonmetallic material and the antenna is a metallic material at least partially embedded within the thickness of the voice tube.

9. The headset of claim 8, wherein the antenna is a metallic wire at least partially embedded within the thickness of the voice tube, the metallic wire being one of spiral wound and extending generally straight along at least a portion of a length of the voice tube.

10. The headset of claim 1, wherein the antenna is one of longer than, equal to, and shorter than the length of the voice tube.

11. A voice tube, comprising:

a tubular member having an open end and an opposing end, the opposing end being configured to be coupled to a microphone, the tubular member having a thickness defined between an interior and an exterior surface thereof;

a lumen defined by the tubular member extending between the open end and the opposing end for acoustic transmission between the open end and the microphone; and

an antenna at least partially integrated within the thickness of the tubular member, the antenna being configured to be coupled to at least one of a transmitter and a receiver for wirelessly transmitting and receiving signals via the antenna, respectively.

12. The voice tube of claim 11, wherein the tubular member is one of flexible and rigid.

13. The voice tube of claim 11, wherein the tubular member is formed of a metallic material, the antenna comprising the metallic tubular member.

14. The voice tube of claim 13, wherein the tubular member is one of a gooseneck metallic tubing, a flexible spiral wound stainless steel flexible tubing, and a flexible spiral wound tubing with copper wiring wrapped in stainless steel wire.

15. The voice tube of claim 11, further comprising a shrink tubing over the tubular member.

16. The voice tube of claim 11, wherein the tubular member is formed of a nonmetallic member and the antenna is a metallic material embedded within the tubular member.

17. The voice tube of claim 16, wherein the antenna is a metallic wire at least partially embedded within the thickness of the tubular member, the metallic wire being one of spiral wound and extending generally straight along at least a portion of a length of the tubular member.

18. The voice tube of claim 11, wherein the antenna is one of longer than, equal to, and shorter than the length of the tubular member.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of: Burson et al.

Application No: 10/788,641

Filed: February 27, 2004

Title: Voice Tube Antenna for Wireless Headset

Atty. Dkt. No. PLANP033

Examiner: Faulk, Devona E

Assignee: Plantronics, Inc.

Art Unit: 2644

CERTIFICATE OF MAILING OR TRANSMISSION

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Signed: \_\_\_\_\_

Jung-hua Kuo

BRIEF ON APPEAL

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P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This is an Appeal from the final rejection of claims 1-18 in the above-referenced patent application. In accordance with 37 C.F.R. §1.192, this Brief, along with the Appendix, is filed in triplicate and is accompanied by the required fee.

**I. Real Party In Interest**

The real party in interest is Plantronics, Inc. The subject patent application was assigned from appellants to Plantronics, Inc. The Assignment was recorded at Reel/Frame 015033/0392.

**II. Related Appeals and Interferences**

There are currently no known appeals or interferences which may directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**III. Status of Claims**

Claims 1-18 are rejected.

#### IV. Status of Amendments

No amendments to the claims were filed subsequent to the final rejection. Thus, the appeal is being taken on the basis of claims 1-18 as finally rejected, as presented in Appendix A submitted herewith.

#### V. Summary of Inventions

The inventions are generally directed to a wireless headset (independent claim 1 and claims dependent therefrom) and a voice tube (independent claim 11 and claims dependent therefrom). Both independent claims are illustrated in FIGS. 1-4 and generally described at paragraph [0018], lines 1-8 and paragraph [0026].

Independent claim 1 recites a wireless headset that generally includes a microphone (e.g., lines 5-8 of paragraph [0018], part of headset capsule 104, 204), a voice tube 106, 206 defining a lumen 114, 214 therein extending between an open end of the voice tube and the microphone for acoustic transmission therebetween (paragraph [0023], lines 1-5 and paragraph [0027], lines 1-2), an antenna 108, 208 at least partially integrated within the thickness of the voice tube (paragraph [0024], lines 1-5 and paragraph [0026], lines 1-7) and a transmitter (part of headset capsule 104, 204) in communication with the antenna for transmitting signals from the microphone via the antenna.

Independent claim 11 recites a voice tube that generally includes a tubular member 106, 206 having an open end and an opposing end and defining a lumen 114, 214 extending between the two ends for acoustic transmission (paragraph [0023], lines 1-5 and paragraph [0027], lines 1-2), and an antenna 108, 208 at least partially integrated within the thickness of the tubular member (paragraph [0024], lines 1-5 and paragraph [0026], lines 1-7). In each case, the thickness of the voice tube or tubular member is explicitly defined in the claims as between an interior and an exterior surface of the voice tube (e.g., see FIGS. 2 and 4).

#### VI. Issues

In the final rejection, the Examiner rejected claims 1-3, 5, 6, 10, 11, 13, 14, and 18 were rejected under 35 U.S.C. 102(e) as being anticipated by Nassimi (US App. No. 2004/0204155).

The Examiner also rejected claims 4, 7-9, 12, and 15-17 under 35 U.S.C. 103(a) as being unpatentable over Nassimi in view of Scott (USPN 4,917,504) and/or Pallai (US App. No. 2001/0036291). In particular, claims 4, 8, 12, and 16 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nassimi in view of Scott. Claims 7 and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nassimi in view of Pallai. Claims 9 and 17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nassimi in view of Scott and further in view of Pallai.

Accordingly, the issues on appeal are:

- (1) whether claims 1-3, 5, 6, 10, 11, 13, 14, and 18 are anticipated by Nassimi;
- (2) whether claims 4, 8, 12, and 16 are patentable over Nassimi in view of Scott;
- (3) whether claims 7 and 15 are patentable over Nassimi in view of Pallai; and
- (4) whether claims 9 and 17 are patentable over Nassimi in view of Scott and further in view of Pallai.

## **VII. Argument**

### **A. Introduction**

The inventions are generally directed to a wireless headset (independent claim 1 and claims dependent therefrom) and a voice tube (independent claim 11 and claims dependent therefrom). The wireless headset generally includes a microphone, a voice tube defining a lumen therein extending between an open end of the voice tube and the microphone for acoustic transmission therebetween, an antenna at least partially integrated within the thickness of the voice tube, and a transmitter in communication with the antenna for transmitting signals from the microphone via the antenna. The voice tube generally includes a tubular member having an open end and an opposing end and defining a lumen extending between the two ends for acoustic transmission, and an antenna at least partially integrated within the thickness of the tubular member. In each case, the thickness of the voice tube or tubular member is explicitly defined as between an interior and an exterior surface of the voice tube.

### **B. Claims 1-3, 5, 6, 10, 11, 13, 14, and 18 Are Not Anticipated by Nassimi**

Claims 1-3, 5, 6, 10, 11, 13, 14, and 18 were rejected under 35 U.S.C. 102(e) as being anticipated by Nassimi.



Independent claim 1 generally recites a wireless headset having a microphone, a voice tube, and an antenna at least partially *integrated within the thickness of the voice tube*, and a transmitter. The voice tube defines a lumen and the thickness is expressly defined in claim 1 as being between an interior and an exterior surface of the voice tube. Independent claim 11 similarly recites a voice tube having a tubular member defining a lumen, and an antenna at least partially *integrated within the thickness of the tubular member*. The thickness is similarly expressly defined in claim 11 as being between an interior and an exterior surface of the tubular member.

Nassimi fails to disclose that the antenna is integrated within the thickness of the tube as defined by the claims. Nonetheless, the Examiner argues that thickness is defined as the dimension *through* an object as opposed to its length or width. However, such an interpretation of “thickness” is inappropriate in light of the fact that “thickness” is expressly defined in each of the independent claims 1 and 11. As noted, thickness is expressly defined in both claims 1 and 11 as being between an interior and an exterior surface of the voice tube. Because the voice tube has a lumen (claim 1) or the tubular member (claim 11), “thickness” refers to the thickness of the wall of the voice tube and does not include the lumen itself. Such explicit definition of “thickness” is clear and unambiguous.

Yet, the Examiner disregards and ignores such clear, explicit and unambiguous definition of “thickness” and, instead, chooses to adopt his own definition that is different from that provided in the claims. In fact, despite that “thickness” is explicitly and unambiguously defined in each of the independent claims 1 and 11, the Examiner states that “The examiner has defined thickness as the dimension through an object as opposed to its length and width.” (See for Example, Advisory Action, page 2, lines 11-12 of paragraph 1). Such definition of a claim term by the Examiner that is contrary to an explicit recitation of the definition of the claim term is inappropriate and impermissible.

Appellant agrees that “thickness,” when used with reference to a tube having a lumen (or a tubular member), may mean either (1) “the dimension through an object as opposed to its length of width” as asserted by the Examiner or (2) the thickness of the wall of the tube, i.e., between the interior and exterior surfaces as recited in the claims. However, such ambiguity does not exist in the claims. Specifically, both claims 1 and 11 explicitly recite that “thickness” is “between an interior and an exterior surface” of the

voice tube or tubular member. Thus, “thickness” as used in the claims cannot be read to mean the dimension *through the entire tube*, i.e., the diameter of the voice tube or the tubular member, as the Examiner insists.

In the Advisory Action, the Examiner states:

The specification only recites in reference to thickness, that “the shrink tubing 114 may have a thickness of approximately 0.009” (page 8, lines 23-24). The definition of thickness given in the claim is not disclosed in the specification.” (Advisory Action, page 2, last 5 lines of paragraph 1).

However, the specification clearly provides the same definition of “thickness” as the claims. In particular, with reference to FIG. 2, the specification states:

For example, as shown, the voice tube antenna 108 may be embedded within the thickness of the tubular member 116 and extending generally straight along a portion of the length of the voice tube 106. Although shown as approximately centered between an exterior and an interior surface of the tubular member 116, the voice tube antenna 108 may be disposed closer to or on the exterior or the interior surface of the tubular member 116, for example. (Specification, page 8, lines 8-13).

Note that FIG. 2 also shows that the voice tube antenna 108 is embedded within the thickness of and approximately centered between the exterior and interior surfaces of the tubular member 116.

Given that “thickness” refers to the dimension between the interior and exterior surfaces of the voice tube or tubular member, Nassimi does not disclose or suggest the inventions as claimed. In particular, Nassimi discloses an antenna that is merely located on or within the microphone tube, i.e., NOT at least partially integrated within the thickness of the voice tube (or tubular member). For example, Nassimi states “the antenna... may be located on or within the microphone tube” (Abstract, Paragraph [0018]). See also paragraphs [0025] (“the microphone is *contained* within the microphone tube”), [0028] (“the at least one antenna *runs along* the microphone tube”), [0037] (“microphone tube 18 may also advantageously *contain* one or more antennae”), [0045] (“antennae may be *hidden within* microphone tube 18.... Antennae may also be located on microphone tube 18. In any case, antennae may run along a portion or all of the length of microphone tube 18.”).

As is evident, Naassimi discloses locating the an antenna *on the microphone tube 18 or inside of the microphone tube 18*, i.e., in the lumen defined by the microphone tube 18. Nowhere does Naassimi disclose or even suggest that the antennae be integrated

*within the thickness* of the wall of the voice tube (i.e., within the wall of the tube, not merely located in the lumen of the tube), as generally recited in each of independent claims 1 and 11.

Reversal of the rejection of independent claims 1 and 11 as well as claims 2, 3, 5, 6, 10, 13, 14, and 18 dependent variously therefrom is requested.

**C. Claims 4, 7-9, 12, and 15-17 Are Patentable Over Nassismi in View of Scott and/or Pallai**

Claims 4, 7-9, 12, and 15-17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nassismi in view of Scott and/or Pallai. In particular, claims 4, 8, 12, and 16 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nassismi in view of Scott. Claims 7 and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nassismi in view of Pallai. Claims 9 and 17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nassismi in view of Scott in further in view of Pallai.

However, the addition of the secondary references Scott and/or Pallai does not overcome the deficiencies of Nassismi as discussed above. Thus, claims 4, 7-9, 12, and 15-17, dependent various from independent claims 1 and 11, are also believed to be allowable for at least similar reasons as those discussed above with respect to independent claims 1 and 11.

Reversal of the rejection of dependent claims 4, 7-9, 12, and 15-17 is therefore requested.

**D. Conclusion**

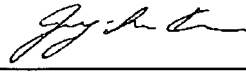
In view of the foregoing, reversal of the rejection of claims 1-18 is requested.

In the unlikely event that the transmittal letter accompanying this document is separated from this document and the Patent Office determines that an Extension of Time under 37 CFR 1.136 and/or any other relief is required, Applicant hereby petitions for any required relief including Extensions of Time and/or any other relief and authorizes the

Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 50-2315 (Order No. 01-7118).

Respectfully submitted,

Dated: June 1, 2006

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Attached: Appendix A (Copy of claims 1-18 involved in the subject Appeal; 3 pages)

Appendix A  
Pending Claims 1-18

1. A wireless headset, comprising:  
a microphone;  
a voice tube defining a lumen therein extending between an open end of the voice tube and the microphone for acoustic transmission between the open end of the voice tube and the microphone, the voice tube having a thickness defined between an interior and an exterior surface thereof;  
an antenna at least partially integrated within the thickness of the voice tube; and  
a transmitter in communication with the antenna for transmitting signals from the microphone via the antenna.
2. The headset of claim 1, further comprising a headset body and a headset capsule coupled to the headset body, the headset capsule including a speaker for outputting signals received via the antenna, the headset body being configured to position the speaker near a headset user's ear.
3. The headset of claim 2, wherein the headset body is selected from an earloop, earhook, and a headband.
4. The headset of claim 1, wherein the voice tube is one of flexible and rigid.
5. The headset of claim 1, wherein the voice tube includes a tubular member formed of a metallic material, the antenna comprising the metallic tubular member, the metallic tubular member being coupled to the transmitter.
6. The headset of claim 5, wherein the tubular member is one of a gooseneck metallic tubing, a flexible spiral wound stainless steel flexible tubing, and a flexible spiral wound tubing with copper wiring wrapped in stainless steel wire.

7. The headset of claim 5, wherein the voice tube includes a shrink tubing over the metallic tubular member.

8. The headset of claim 1, wherein the voice tube includes a tubular member formed of a nonmetallic material and the antenna is a metallic material at least partially embedded within the thickness of the voice tube.

9. The headset of claim 8, wherein the antenna is a metallic wire at least partially embedded within the thickness of the voice tube, the metallic wire being one of spiral wound and extending generally straight along at least a portion of a length of the voice tube.

10. The headset of claim 1, wherein the antenna is one of longer than, equal to, and shorter than the length of the voice tube.

11. A voice tube, comprising:

a tubular member having an open end and an opposing end, the opposing end being configured to be coupled to a microphone, the tubular member having a thickness defined between an interior and an exterior surface thereof;

a lumen defined by the tubular member extending between the open end and the opposing end for acoustic transmission between the open end and the microphone; and

an antenna at least partially integrated within the thickness of the tubular member, the antenna being configured to be coupled to at least one of a transmitter and a receiver for wirelessly transmitting and receiving signals via the antenna, respectively.

12. The voice tube of claim 11, wherein the tubular member is one of flexible and rigid.

13. The voice tube of claim 11, wherein the tubular member is formed of a metallic material, the antenna comprising the metallic tubular member.

14. The voice tube of claim 13, wherein the tubular member is one of a gooseneck metallic tubing, a flexible spiral wound stainless steel flexible tubing, and a flexible spiral wound tubing with copper wiring wrapped in stainless steel wire.

15. The voice tube of claim 11, further comprising a shrink tubing over the tubular member.

16. The voice tube of claim 11, wherein the tubular member is formed of a nonmetallic member and the antenna is a metallic material embedded within the tubular member.

17. The voice tube of claim 16, wherein the antenna is a metallic wire at least partially embedded within the thickness of the tubular member, the metallic wire being one of spiral wound and extending generally straight along at least a portion of a length of the tubular member.

18. The voice tube of claim 11, wherein the antenna is one of longer than, equal to, and shorter than the length of the tubular member.